

4.2.8.10 Waste Management

This section summarizes the impacts on wastes management at LANL under No Action and the phaseout of Pu storage. There is no spent nuclear fuel or HLW associated with Pu storage. Table 4.2.8.10-1 lists the projected waste generation rates and treatment, storage, and disposal capacities under No Action for 2005. Projections for No Action were derived from the most recent available environmental data, with appropriate adjustments made for those changing operational requirements where the volume of wastes generated are identifiable. The projection does not include wastes from future, yet uncharacterized, environmental restoration activities. The projections for No Action could change depending on decisions resulting from the PEIS on waste management being prepared by the Department. Facilities that would support the storage of Pu would treat and package all waste generated into forms that would enable staging and/or disposal in accordance with RCRA and other relevant statutes. Depending in part on decisions in waste-type-specific RODs for the Waste Management PEIS, wastes could be treated and disposed of onsite or at regionalized or centralized DOE sites. For the purposes of analyses only, this PEIS assumes that TRU and mixed TRU waste would be treated onsite to the current planning-basis WIPP WAC, and shipped to WIPP for disposal. This PEIS also assumes that LLW, mixed LLW, hazardous, and nonhazardous waste would be treated and disposed of in accordance with current site practice.

Preferred Alternative: No Action Alternative

Under No Action, TRU, low-level, mixed, hazardous, and nonhazardous wastes would continue to be generated at LANL from the missions outlined in Section 3.9. LANL would continue to treat, store, and dispose of its legacy and newly generated wastes in current and planned facilities. Waste management activities at LANL are categorized as regulatory compliance and project administration, waste minimization, waste treatment, waste storage, and waste disposal. Within each category of waste management activity, various wastes are handled according to waste type as defined by various DOE Orders, as well as Federal and State regulations. Applicable permitting, treatment, storage, and disposal requirements are determined according to these waste types.

Liquid TRU waste would continue to be generated at the Plutonium Facility (TA-55). The residual TRU waste sludge that remains after treatment would continue to be loaded into 208-l (55-gal) steel drums, solidified, and transported to Area G for storage. Solid TRU waste would be characterized, certified to meet the current planning-basis criteria for acceptance at WIPP or an alternative treatment level, and placed in storage at Area G pending decisions made in the ROD associated with the supplemental EIS for the proposed continued phased development of WIPP for disposal of TRU waste and the approval of WIPP as a repository for these wastes pursuant to the requirements of 40 CFR 191 and 40 CFR 268. A new planned facility for characterizing and processing solid TRU waste is projected to be operational in 2006.

Liquid LLW would be neutralized and solidified in two onsite treatment facilities. Depending on decisions from the site-wide EIS, solid LLW would be compacted, packaged, and stored for disposal either in an onsite, expanded Area G LLW burial site or through other disposal options. Liquid mixed waste would undergo neutralization/pH adjustment, oxidation/reduction, precipitation, chelation/flocculation, and filtration. Both liquid and solid mixed waste would be treated and disposed of according to the LANL Site Treatment Plan that was developed pursuant to the *Federal Facility Compliance Act*. The resulting waste would then be stored in a RCRA-permitted facility in DOT-approved containers until it is shipped to an offsite DOE disposal facility. Some of this waste would be placed in interim storage until new technologies for treatment and disposal are identified and evaluated. Liquid sanitary wastes would be treated by a consolidation and collection system and discharged to NPDES permitted sanitary tile fields. Solid nonhazardous waste would be disposed of in a regional commercial disposal facility.

Table 4.2.8.10-1. Projected Waste Management Under No Action (2005) at Los Alamos National Laboratory

Category	Annual Generation (m ³)	Treatment Method	Treatment Capacity (m ³)	Storage Method	Storage Capacity (m ³)	Disposal Method	Disposal Capacity (m ³)
Transuranic							
Liquid	0.1	Pretreatment at TA-50: neutralization, clarification, filtration, precipitation, cement mixing	132,659	NA	NA	NA	NA
Solid	54	Volume reduction	51,989	Storage pads at TA-54, modified LLW burial pits and shafts	24,355	None: Federal repository in the future	None
Mixed							
Transuranic							
Liquid	None	Included in TRU	Included in TRU	NA	NA	NA	NA
Solid	255	Included in TRU	Included in TRU	Included in TRU	Included in TRU	None: Federal repository in the future	None
Low-Level							
Liquid	21,400	Chemical treatment and ion-exchange, solidification; and volume reduction (vial crusher)	45 m ³ /hr	Chemical and Ion-Exchange Plant at TA-50 and the Chemical Plant at TA-21	663	Treatment effluent is discharged to the environment. Residual sludge is solidified and disposed of at TA-54, Area G as solid LLW	None
Solid	2,690	Compaction	76	TA-54 in Area G	Variable	Currently solid LLW goes to TA-54, Area G for burial. Continued construction at Area G under evaluation in the site-wide EIS	24 to 28 ha
Mixed Low-Level							
Liquid	0	Neutralization, precipitation, oxidation, thermal treatment; solidification; volume reduction; liquid scintillation cocktail vials	Capabilities under development per site treatment plan	RCRA-permitted bldgs. (not built yet) and interim status container storage areas	583	NA	None

Table 4.2.8.10-1. Projected Waste Management Under No Action (2005) at Los Alamos National Laboratory—Continued

Category	Annual Generation (m ³)	Treatment Method	Treatment Capacity (m ³)	Storage Method	Storage Capacity (m ³)	Disposal Method	Disposal Capacity (m ³)
Solid	45	None	Capabilities under development per site treatment plan	TA-54, Area L, or G	1,864	Capabilities under development as per Site Treatment Plan for Mixed Wastes	None
Hazardous							
Liquid	273	Thermal treatment, treatment tanks, neutralization, precipitation, and evaporation	Varies depending on the waste stream	Thermal treatment TAs-14, -15, -16, -36, and -39 and storage and treatment at TA-54, Area L	502	Offsite	NA
Solid	669	Thermal treatment and flashpad	Varies depending on the waste stream	Thermal treatment TAs-14, -15, -16, -36, and -39 and storage and treatment at TA-54, Area L	502	Offsite	NA
Nonhazardous (Sanitary)							
Liquid	692,827	Filtration, settling, and stripping	1,060,063	NA	NA	Permitted discharge sanitary tile fields	2,271,240 liters/day
Solid	5,453	None	None	NA	NA	Offsite county landfill and onsite landfill Area J	NA
Nonhazardous (Other)							
Liquid	Included in sanitary	See sanitary	Included in sanitary	NA	NA	See sanitary	Included in sanitary
Solid	Included in sanitary	None	None	NA	NA	See sanitary	NA

Note: NA=not applicable.

Source: LANL 1990a; LANL 1994b.

Phaseout

Upgrades to facilities at the site may be required in order to ensure compliance with all applicable Federal and State laws, DOE Orders, and standing agreements during the transition. The small amount of waste associated with Pu storage would no longer be generated.